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UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF CALIFORNIA  
ROBERT T. MATSUI FEDERAL COURTHOUSE

CALIFORNIA SPORTFISHING  
PROTECTION ALLIANCE,

Plaintiff,

v.

KATHLEEN ALLISON, in her  
official capacity as Secretary  
of the California Department of  
Corrections and Rehabilitation,  
Defendants.

COUNTY OF AMADOR, a public  
agency of the State of  
California,

Plaintiff,

v.

KATHLEEN ALLISON in her  
official capacity as Secretary  
of the California Department of  
Corrections and Rehabilitation;  
PATRICK COVELLO in his official  
capacity of Warden of  
California Department of  
Corrections and Rehabilitation  
Mule Creek State Prison,  
Defendants.

Case No. 2:20-cv-02482-WBS-AC

DECLARATION OF ROBERT EMERICK  
IN SUPPORT OF PLAINTIFFS'  
MOTION FOR SUMMARY  
ADJUDICATION

No. 2:21-cv-0038-WBS-AC

Date: August 22, 2022  
Time: 1:30 p.m.  
Court: 5

Action Filed: Jan. 7, 2021  
Trial Date: April 18, 2023

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1 I, Robert Emerick, make this declaration from personal  
2 knowledge. If called, I could and would testify competently as  
3 follows:

4 1. I am a registered Civil Engineer in the State of  
5 California (registration number C58914).

6 2. I hold a Ph.D. in Civil and Environmental Engineering,  
7 awarded by the University of California Davis in 1998, with  
8 doctoral minors in stochastic modeling and ecology.

9 3. I partially owned an engineering firm called ECO:LOGIC  
10 Engineering that specialized in the planning, environmental  
11 permitting, design, construction management, maintenance, and  
12 operation of water, recycled water, and wastewater treatment  
13 facilities. Following the sale of the company, I was a Principal  
14 of Stantec Consulting. I have operated independently since 2015.  
15 I have over 30 years of water quality experience including NPDES  
16 permitting, stream studies for priority pollutants, and  
17 wastewater treatment process development and design. I am an  
18 acknowledged expert in priority pollutant control and obtaining  
19 waste discharge permits for public agencies, particularly  
20 involving effluent dominated water bodies.

21 4. Based on my experience, I've taught classes for the  
22 State of California Water Boards Academy, an education department  
23 of the State Water Resources Control Board, pertaining to  
24 discharge permit development for recycled water, land disposal,  
25 and surface water discharges, treatment facility inspections, and  
26 treatment process design.

27 **FACILITY DESCRIPTION**

28 5. On March 9, 2022 and May 24, 2022, I inspected Mule

1 Creek State Prison's stormwater collection network.

2 6. Based on my observations during the site inspections of  
3 March 9th and May 24th, I understand Mule Creek State Prison to  
4 consist of inmate housing facilities and inmate-staffed  
5 industrial facilities.

6 7. There are stormwater collection inlets and piping  
7 within the prison facility that lead to a perimeter stormwater  
8 collection network. The perimeter stormwater collection network  
9 receives stormwater from within the prison complex and from the  
10 roadway drainage that surrounds the prison facility. The  
11 perimeter stormwater network is not continuous. Various segments  
12 of the perimeter stormwater network combine into central concrete  
13 collection basins.

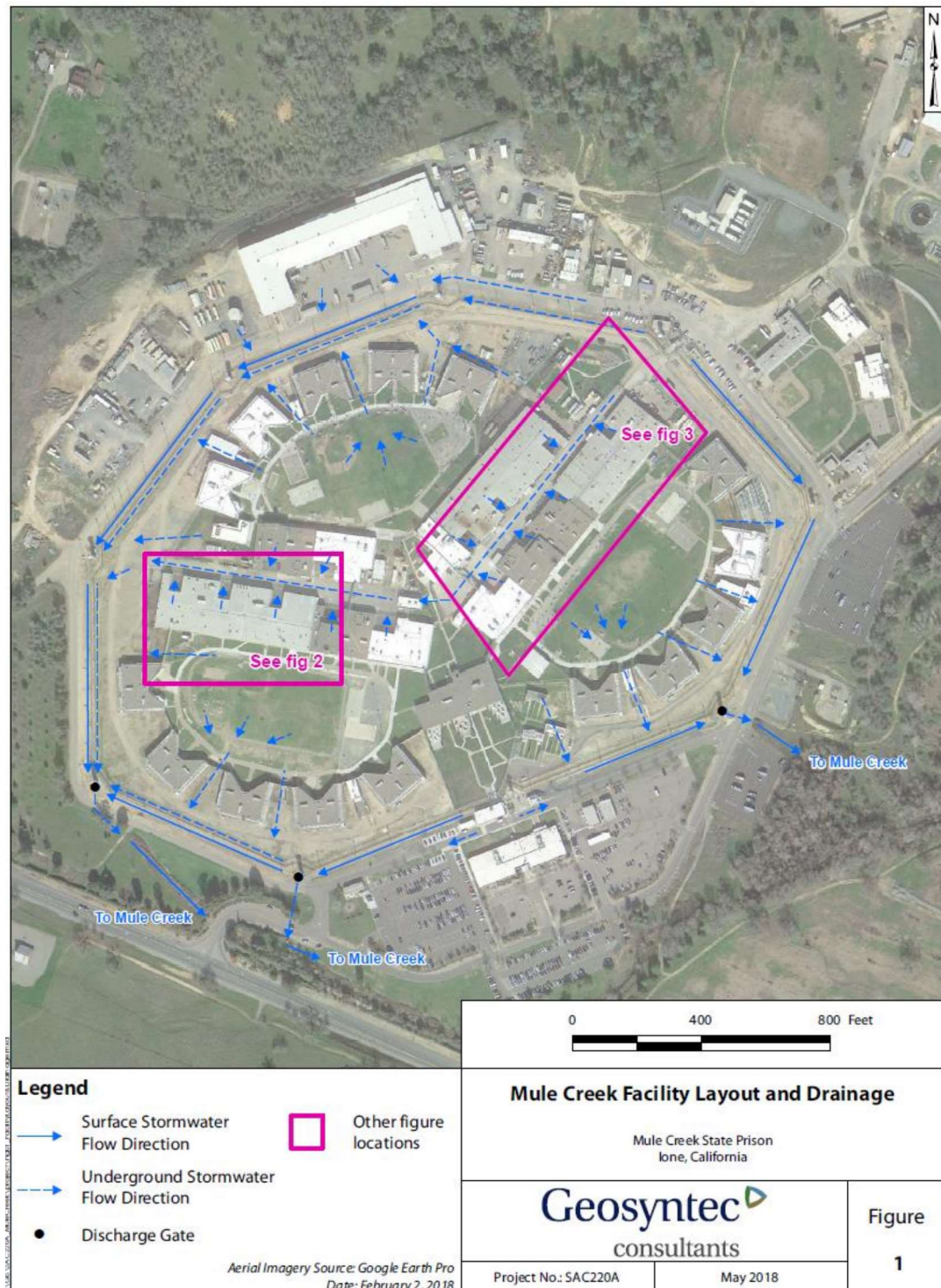
14 8. The concrete collection basins contain (A) pumps to  
15 facilitate discharge of collected stormwater into the sewerage  
16 piping network for subsequent discharge and treatment at the  
17 wastewater treatment facility, and (B) slide gates that, when  
18 opened, allow for discharge into a dirt lined drainage ditch that  
19 ultimately flows into Mule Creek.

20 9. The stormwater discharge limitations require all flow  
21 to be routed to the sewerage system except during rainfall events  
22 of a particular size, whereby the slide gates can be opened and a  
23 stormwater discharge made to Mule Creek.

24 There are three stormwater discharge outfalls from Mule Creek  
25 State Prison into Mule Creek. The locations of the outfalls,  
26 together with the sections of perimeter stormwater collection  
27  
28

network feeding each outfall, are illustrated in Figure 1.<sup>1</sup>

**FIGURE 1**



<sup>1</sup> References in Figure 1 to "fig 2" and "fig 3" pertain to a separate document and are different than the references to Figures 2 and 3 below, which are included in this declaration.



10. A photograph of one of the concrete collection basins feeding the outfall is presented in Figure 2. One of the dirt-lined ditches feeding into Mule Creek is presented in Figure 3.

**FIGURE 2**



**FIGURE 3**



1     **TESTING PROTOCOL**

2           11. The most direct method to determine whether discharged  
3 stormwater contains a wastewater component would be to sample a  
4 stormwater discharge while occurring for contaminants that are  
5 present in wastewater but not expected to be present in  
6 stormwater.

7           12. Unfortunately, owing to the security aspects associated  
8 with operating a prison facility, it was not possible to plan  
9 visits to the facility during stormwater discharge events.  
10 Therefore, two site visits were conducted on days when stormwater  
11 discharges were not expected to be occurring. The intent with  
12 these site visits was (1) to gain a better understanding as to  
13 how the prison stormwater collection and discharge system is  
14 designed and operated; (2) to observe whether water is present  
15 within the stormwater network during dry periods when stormwater  
16 is not expected to be present; and, (3) to sample any water  
17 present within the stormwater collection network for contaminants  
18 of wastewater origin. If wastewater contaminants were observed  
19 within the stormwater collection network, it is reasonable to  
20 assume that they would also be present during discharge events.

21           13. I, along with other representatives of Plaintiffs,  
22 visited the site in-person on March 9, 2022 and May 24, 2022. On  
23 both occasions, Plaintiffs collected samples for off-site  
24 analysis. The site visits consisted of:

- 25           a. First inspecting the outfalls to determine whether  
26           discharges were occurring during dry weather periods;  
27           b. Inspecting perimeter collection basins for standing or  
28           flowing water; and,

1 c. Sampling water present.

2 14. Although water was sampled and analyzed for a wide  
3 variety of contaminants (e.g., total suspended solids, salts,  
4 nitrogen species, etc.), the most critical contaminants sampled  
5 were for bacterial contamination (e.g., total coliform, fecal  
6 coliform, *E. coli*) and pharmaceuticals/personal care products.

7 15. The basis for sampling for bacterial contamination is  
8 because those parameters are directly regulated by the stormwater  
9 discharge permit and directly impact beneficial uses of Mule  
10 Creek. Elevated concentrations of bacterial contaminants can  
11 lead to adverse health impacts associated with recreation in and  
12 around Mule Creek. However, although sewage contamination can  
13 cause elevated concentrations of bacterial contaminants, I am  
14 aware that the prison has attributed these elevated  
15 concentrations to natural sources that might be present.  
16 Examples include deposition by ruminants and/or aerial deposition  
17 by birds. To distinguish between human sources and natural  
18 sources, we sampled for pharmaceuticals and personal care  
19 products. These types of contaminants are human-manufactured and  
20 cannot and do not occur naturally. The only mechanism that could  
21 lead to their presence in stormwater are discharges into the  
22 stormwater collection network from human sources or cross-  
23 contamination between the sewerage and stormwater collection  
24 systems.

## 25 **RESULTS AND DISCUSSION**

26 16. On March 9, 2022, I directly observed water in the  
27 stormwater collection system up to the final collection basin,  
28 which is shown in Figure 2. Figure 4 shows that the dirt-lined



ditch leading to Mule Creek contained ponded water, with water present on the concrete apron and within the pipes connected to the final collection basin. Figure 5 shows ponded water throughout an extensive section of the discharge ditch, though I did not observe the water actually flowing into Mule Creek. I personally walked the surrounding fields in an effort to find sprinklers or other irrigation devices that could explain ponded water in the outfall ditch. No such irrigation devices were observed, but I did observe water in the piping network leading to the ditch. It was evident that there had been a recent discharge, though the discharge was no longer occurring at the time of the site visit.

**FIGURE 4**





**FIGURE 5.**



17. A summary of results from the bacterial analyses together with the pharmaceutical/personal care product testing are reported in Table 1, attached as Plaintiffs' Appendix, Exhibit 18, and Figure 6 depicts where each sample was collected.

18. Samples were collected and analyzed at two of the outfalls (i.e., the dirt lined ditches located after the concrete collection basins that ultimately flow into Mule Creek). Total coliform, fecal coliform, and E. coli (i.e., indicators of bacterial contamination) were observed at both outfall locations at concentrations that are consistent with being contaminated with domestic sewage.

19. Both outfalls contained pharmaceuticals. Specifically, both outfalls were observed to contain trace amounts of caffeine (i.e., a central nervous system stimulant found in coffee), carbamazepine (i.e., an anticonvulsant used to treat seizures,

nerve pain, and bipolar disorder), dehydronifedipine (i.e., a drug metabolite), sulfamethoxazole (i.e., an antibiotic), thiabendazole (i.e., an antifungal and antiparasitic agent), and 1,7-dimethylxanthine (i.e., a metabolite of caffeine).

20. Outfall 1D1A10 also contained the antibiotic flumequine and outfall 2D1A10 also contained the analgesic acetaminophen and the antibiotic sulfadiazine.

**Table 1.**

**Bacterial Analysis**

Name	Date	E. coli <sup>1</sup>	Fecal Coliforms <sup>1</sup>	Total Coliforms <sup>1</sup>
1D1A10	3/9/2022	Present	1600	>1600
2D1A10	3/9/2022	Present	540	>1600
3GT4	3/9/2022	Present	79	>1600
GT3-BDG4	5/24/2022	540	540	>1600
GT4-POLE29	5/24/2022	1600	1600	>1600
GT6	5/24/2022	240	240	>1600
GT9	5/24/2022	130	130	130

**Legend**

<sup>1</sup>	MPN/100 mL
<sup>2</sup>	ng/L
"Present"	Result was not quantified
<	Result is less than reported number
>	Result is larger than reported number
-	Results are not yet reported

**Pharmaceuticals/Personal Care Products**

Name	Date	Acetaminophen <sup>2</sup>	Caffeine <sup>2</sup>	Carbamazepine <sup>2</sup>	Dehydronifedipine <sup>2</sup>	Flumequine <sup>2</sup>	Sulfadiazine <sup>2</sup>	Sulfamethoxazole <sup>2</sup>	Thiabendazole <sup>2</sup>	1,7-Dimethylxanthine <sup>2</sup>
1D1A10	3/9/2022	< 14.1	1630	1.86	0.586	2.62	< 1.41	1.15	1.97	126
2D1A10	3/9/2022	617	4240	9.97	1.96	< 1.59	7.63	7.36	3.17	381
3GT4	3/9/2022	< 14.3	424	< 1.43	< 0.57	< 1.43	< 1.43	< 0.57	2.38	< 57
GT3-BDG4	5/24/2022	-	-	-	-	-	-	-	-	-
GT4-POLE29	5/24/2022	-	-	-	-	-	-	-	-	-
GT6	5/24/2022	-	-	-	-	-	-	-	-	-
GT9	5/24/2022	-	-	-	-	-	-	-	-	-

**FIGURE 6.**





**CONCLUSION**

21. Based on (1) the direct observation of standing and partially flowing water within the stormwater collection system during non-rain events following extended dry atmospheric periods, (2) the direct observation of water within the dirt-lined ditches leading to Mule Creek, (3) the measured observation of bacterial indicators at concentrations that exceed pertinent regulatory standards, and (4) the measured observation of pharmaceuticals whose only source can be from human excrement, I can state with certainty that discharges occur through the stormwater piping network that contain a sewage component.

I swear under penalty of perjury under the laws of both California and the United States that the foregoing is true and correct and that this declaration was executed on June 27, 2022 at San Diego, California.



Robert W. Emerick, Ph. D., P.E.